

Multilateral Payload Regulations

Flight Projects Directorate

Basic Draft

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INTRODUCTION	1
AUTHORITY AND RESPONSIBILITY	2
PAYLOAD OPERATIONS	3
PAYLOAD AUTOMATED PROCEDURES	4
CREW PROCEDURES	5
COMMAND AND DATA HANDLING	6
COMMUNICATIONS AND TRACKING	7
RESOURCE MANAGEMENT	8
PAYLOAD SUPPORT SYSTEMS	9
FILE MANAGEMENT	10
GROUND SYSTEMS	11
CREW COMMUNICATIONS	12
OPERATIONS PREPARATION	13
POST-OPERATIONS	14
RUSSIAN SEGMENT PARTNER-SPECIFIC PAYLOAD REGULATIONS	15
EUROPEAN SEGMENT PARTNER-SPECIFIC PAYLOAD REGULATIONS	16
JAPANESE SEGMENT PARTNER-SPECIFIC PAYLOAD REGULATIONS	17
CANADIAN SEGMENT PARTNER-SPECIFIC PAYLOAD REGULATIONS	18
UNITED STATES SEGMENT PARTNER-SPECIFIC PAYLOAD REGULATIONS	19
ACRONYMS AND ABBREVIATIONS	A
CHANGE CONTROL	B
REFERENCE DOCUMENTS	C
DEFINITIONS AND GLOSSARY	D
OPEN TBRs/TBDs	E

MULTILATERAL PAYLOAD REGULATIONS

SECTION M1 - INTRODUCTION

M1.1-1	PAYLOAD REGULATIONS PURPOSE	1-1
M1.1-2	PAYLOAD REGULATIONS SCOPE	1-1
M1.1-3	REALTIME OPERATING POLICY	1-1
M1.1-4	REGULATIONS FORMAT	1-1

SECTION M2 - AUTHORITY AND RESPONSIBILITY

M2.1-1	POIC AUTHORITY AND RESPONSIBILITY	2-1
M2.1-2	PCC AUTHORITY AND RESPONSIBILITY	2-1
M2.1-3	PAYLOAD OPERATIONS CONTROL BOARD	2-2

SECTION M3 - PAYLOAD OPERATIONS

M3.1-1	NOTIFICATION OF ANOMALIES	3-1
M3.1-2	PAYLOAD ANOMALY RESOLUTION	3-1
M3.1-3	RETURN-TO-BASELINE	3-1
M3.1-4	UNAVAILABLE CREWMEMBER	3-2
M3.1-5	PAYLOAD PRIORITIES DURING REALTIME	3-2
M3.1-6	PAYLOAD PRIORITIES DURING REPLANNING	3-2
M3.1-7	PAYLOAD OPERATIONS ACTIVITIES	3-3
M3.1-8	PAYLOAD OPERATIONS SUPPORT	3-3
M3.1-9	CHANGES AFFECTING SHARED RESOURCES	3-4
M3.1-10	SAFING PAYLOADS	3-4
M3.1-11	ACCESS TO OPERATIONS PRODUCTS	3-4
M3.1-12	PRIVATE CREW COMMUNICATIONS	3-4

SECTION M4 - PAYLOAD AUTOMATED PROCEDURES

M4.1-1	GENERAL PAYLOAD AUTOMATED PROCEDURES	4-1
M4.1-2	APPROVED AUTOMATED OPERATIONS/PROCEDURES	4-1

SECTION M5 - CREW PROCEDURES

M5.1-1	GENERAL PROCEDURES	5-1
M5.1-2	APPROVED CREW OPERATIONS/PROCEDURES	5-1
M5.1-3	CREW INITIATION OF INVESTIGATION/RECOVERY PROCEDURES	5-1
M5.1-4	TEMPORARY STOWAGE UTILIZATION	5-2

SECTION M6 - COMMAND AND DATA HANDLING

M6.1-1	PAYLOAD LOW RATE TELEMETRY ALLOCATION	6-1
M6.1-2	VIDEO SWITCHING UNIT (VSU) CONFIGURATION	6-1
M6.1-3	VSU SWITCHING	6-1
M6.1-4	APS COMMANDING	6-1
M6.1-5	APS BUILT-IN SELF-TEST	6-2
M6.1-6	DATA FILE PRIORITY	6-2
M6.1-7	FILE DOWNLINK PRIORITY	6-2
M6.1-8	EXTENDED FILE DUMPS	6-2

MULTILATERAL PAYLOAD REGULATIONS

SECTION M7 - COMMUNICATIONS AND TRACKING

M7.1-1	RESTRICTIONS ON VIDEO VIEWING OF THE CREW DURING PAYLOAD OPERATIONS	7-1
--------	--	-----

SECTION M8 - RESOURCE MANAGEMENT

M8.1	NOMINAL OPERATIONS	
M8.1-1	LATE INPUTS TO PLANNING PRODUCTS	8-1
M8.1-2	RESOURCE ALLOCATIONS	8-1
M8.1-3	PAYLOAD OPERATION WITHIN PARTNER RESOURCE DISTRIBUTION	8-1
M8.1-4	SHARING RESOURCES AMONG PARTNERS	8-1
M8.1-5	DISTRIBUTION OF UNUSED RESOURCES	8-2
M8.1-6	REDUCTION IN PAYLOAD RESOURCES	8-2
M8.1-7	USE OF ADDITIONAL RESOURCES	8-2
M8.1-8	UNDISTRIBUTED CREW TIME	8-2
M8.1-9	ON-BOARD TRAINING	8-3
M8.2	DEVIATIONS FROM BASELINE	
M8.2-1	PARTNER RESOURCES DURING TROUBLESHOOTING	8-3

SECTION M9 - PAYLOAD SUPPORT SYSTEMS

M9.1	GENERAL	
M9.1-1	NOMINAL CONTROL OPERATIONS	9-1
M9.1-2	UNPLANNED OPERATIONS	9-1
M9.1-3	CHANGE OF STATE	9-1
M9.1-4	PCC COMMANDING OF PLSS	9-1
M9.1-5	USER COMMANDING OF PLSS	9-1
M9.1-6	APPROVED PLSS OPERATIONS/PROCEDURES	9-2
M9.2	DEVIATIONS FROM BASELINE	
M9.2-1	NOTIFICATION OF PLSS NON-STANDARD CONDITIONS	9-2
M9.2-2	PLSS RESOURCE LOAD SHEDDING	9-2
M9.2-3	POWER INTERRUPTIONS	9-2
M9.2-4	UNPLANNED COMMANDING OF PAYLOAD SUPPORT SYSTEMS	9-3

SECTION M10 - FILE MANAGEMENT

M10.1-1	FILE UPLINKS	10-1
M10.1-2	FILE UPLINK SCHEDULE	10-1
M10.1-3	PAYLOAD FILE TRANSFER MANAGEMENT	10-1

SECTION M11 - GROUND SYSTEMS

M11.1-1	FAILURE OF REMOTE COMMAND LINKS	11-1
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MULTILATERAL PAYLOAD REGULATIONS

M11.1-2	AVAILABILITY OF OPERATIONS PRODUCTS	11-1
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SECTION M12 - CREW COMMUNICATIONS

M12.1-1	PAYLOAD OPERATIONS DURING CREW SLEEP	12-1
M12.1-2	GROUND COMMANDING OF AUTOMATED PROCEDURES	12-1
M12.1-3	MONITORING FLIGHT CREW COMMUNICATIONS	12-1
M12.1-4	SPACE-TO-GROUND VOICE COMMUNICATIONS FOR PAYLOAD OPERATIONS	12-1
M12.1-5	COMMUNICATIONS DURING RUSSIAN GROUND SITE PASSES	12-2
M12.1-6	S/G VOICE USE FOR PARTNERS AND PRINCIPAL INVESTIGATORS	12-2
M12.1-7	CREW E-MAIL	12-3

SECTION M13 - OPERATIONS PREPARATION

M13.1-1	LATE INPUTS TO PLANNING PRODUCTS	13-1
M13.1-2	PAYLOAD RELOCATION WITHIN THE USOS	13-1
M13.1-3	PAYLOAD SAFING WITHIN THE USOS	13-1

SECTION M14 - POST-OPERATIONS

SECTION M15 - RUSSIAN SEGMENT PARTNER-SPECIFIC PAYLOAD REGULATIONS

M15.1-1	KHT-1 GLOBAL TIMING SYSTEM TRANSMITTER LIMITATIONS	15-1
M15.1-2	BTX-1 GLICOPROTEIDE TRANSFER AND INSTALLATION LIMITATIONS	15-1
M15.1-3	BTX-1 GLICOPROTEIDE TEMPERATURE LIMITATIONS	15-1
M15.1-4	BTX-2 MIMETIK-K TRANSFER AND INSTALLATION LIMITATIONS	15-1
M15.1-5	BTX-2 MIMETIK-K TEMPERATURE LIMITATIONS	15-1
M15.1-6	BTX-12 BIOECOLOGY TRANSFER AND INSTALLATION LIMITATIONS	15-2
M15.1-7	BTX-12 BIOECOLOGY TEMPERATURE LIMITATIONS	15-2
M15.1-8	BTX-12 BIOECOLOGY STOWAGE FOR RETURN LIMITATIONS	15-2
M15.1-9	BTX-14 BIOEMULSION TRANSFER AND ACTIVATION CONSTRAINTS	15-2
M15.1-10	BTX-14 BIOEMULSION TEMPERATURE CONSTRAINTS	15-2
M15.1-11	GFE-1 RELAXATION OPERATIONS CONSTRAINTS	15-3
M15.1-12	MBE-5 CARDIO SCHEDULING AFTER CREW MEALS	15-3
M15.1-13	MBE-5 CARDIO SCHEDULING CONSTRAINTS	15-3
M15.1-14	MBE-5 CARDIO CLOTHING REQUIREMENTS	15-3
M15.1-15	MBE-1 SPRUT-K OPERATIONS CONSTRAINTS	15-3
M15.1-16	MBE-3 PARADONT SCHEDULING REQUIREMENTS	15-4
M15.1-17	MBE-3 PARADONT SAMPLE TEMPERATURE CONSTRAINTS	15-4
M15.1-18	RBO-2 BRADOZ TRANSFER CONSTRAINTS	15-4
M15.1-19	TEX-20 PLASMA CRYSTAL 3 OPERATIONS CONSTRAINTS	15-4

MULTILATERAL PAYLOAD REGULATIONS

SECTION M16 - EUROPEAN (ESA) SEGMENT PARTNER-SPECIFIC PAYLOAD
REGULATIONS

SECTION M17 - JAPANESE (NASDA) SEGMENT PARTNER-SPECIFIC PAYLOAD
REGULATIONS

SECTION M18 - CANADIAN (CSA) SEGMENT PARTNER-SPECIFIC PAYLOAD
REGULATIONS

SECTION M19 - UNITED STATES (NASA) SEGMENT PARTNER-SPECIFIC
PAYLOAD REGULATIONS

M19.1-1 DOCUMENTATION OF UNITED STATES SEGMENT
PARTNER-SPECIFIC REGULATIONS 19-1

APPENDIX A - ACRONYMS AND ABBREVIATIONS A-1

APPENDIX B - CHANGE CONTROL B-1

APPENDIX C - REFERENCE DOCUMENTS C-1

APPENDIX D - DEFINITIONS AND GLOSSARY D-1

APPENDIX E - OPEN TBRs/TBDs E-1

MULTILATERAL PAYLOAD REGULATIONS

SECTION M1 - INTRODUCTION

M1.1-1 PAYLOAD REGULATIONS PURPOSE

THIS DOCUMENT FULFILLS REQUIREMENTS OF STATION PROGRAM IMPLEMENTATION PLAN (SSP 50200) VOLUME 8, SECTION 7.3.5, AND VOLUME 9, SECTION 7.5.1. THIS DOCUMENT PROVIDES STATION-WIDE ON-BOARD AND GROUND PAYLOAD AND SYSTEMS REGULATIONS AND CONSTRAINTS FOR PRE-INCREMENT AND INCREMENT PLANNING AND EXECUTION. IT DEFINES RESPONSIBILITIES, PROCEDURES, AND RULES FOR MULTILATERAL PAYLOAD OPERATIONS PERSONNEL. THE REGULATIONS RECORD PAYLOAD DECISIONS AGREED TO IN ADVANCE AND ARE DESIGNED TO MINIMIZE THE AMOUNT OF REALTIME DISCUSSION AND DECISION-MAKING THAT DOES NOT AFFECT SAFETY OR VEHICLE INTEGRITY.

M1.1-2 PAYLOAD REGULATIONS SCOPE

THESE REGULATIONS ENCOMPASS INTERNATIONAL PAYLOAD OPERATIONS. PARTNER PAYLOADS, PARTNER CONTROL CENTERS (PCC), AND THE PAYLOAD OPERATIONS INTEGRATION CENTER (POIC) MUST ABIDE BY THESE REGULATIONS, UNLESS OTHERWISE NOTED. THIS DOCUMENT ADDRESSES ONLY NOMINAL, OFF-NOMINAL, AND PAYLOAD OPERATIONS PHILOSOPHIES THAT DO NOT HAVE SAFETY OR VEHICLE INTEGRITY IMPLICATIONS.

M1.1-3 REALTIME OPERATING POLICY

NORMAL PAYLOAD OPERATIONS WILL BE PLANNED AND CONDUCTED ACCORDING TO THESE PAYLOAD REGULATIONS, JOINT OPERATIONS INTERFACE PROCEDURES (JOIP), AND SHUTTLE, STATION, AND JOINT OPERATIONAL FLIGHT RULES. WHERE THE PAYLOAD REGULATIONS AND THE JOIP ARE IN CONFLICT, THE REGULATIONS TAKE PRECEDENCE. WHERE THE PAYLOAD REGULATIONS AND THE OPERATIONAL FLIGHT RULES ARE IN CONFLICT, THE FLIGHT RULES WILL TAKE PRECEDENCE.

M1.1-4 REGULATIONS FORMAT

A. PAYLOAD REGULATIONS TEXT IS IN UPPER CASE.

Rationale text is italicized sentence case.

APPLICABILITY, AFFECTS, AND DOCUMENTATION HEADINGS ARE IN UPPER CASE.

Following text is sentence case.

B. RATIONALE STATEMENTS ARE NOT PART OF THE REGULATION STATEMENTS AND ARE NOT BINDING. THEY ARE EXPLANATION COMMENTARY ONLY.

C. REGULATION PARAGRAPHS ARE PRECEDED WITH THE LETTER "M" (M4.1-2) TO IDENTIFY THEM AS MULTILATERAL REGULATIONS AND DISTINGUISH THEM FROM INTERNAL PARTNER REGULATIONS (e.g., NASA REGULATIONS, N4.1-2). THIS IS INTENDED TO REDUCE CONFUSION WHEN CALLING OUT OR REFERENCING A SIMILAR REGULATION THAT MAY BE FOUND IN BOTH THE

MULTILATERAL PAYLOAD REGULATIONS

MULTILATERAL PAYLOADS REGULATIONS AND THE PARTNER PAYLOAD
REGULATIONS DOCUMENTS.

MULTILATERAL PAYLOAD REGULATIONS

SECTION M2 - AUTHORITY AND RESPONSIBILITY

M2.1-1 POIC AUTHORITY AND RESPONSIBILITY

THE POIC ENSURES PAYLOAD OPERATIONS INTEGRATION OF THE WHOLE STATION. THE FOLLOWING ARE THE MAIN PURPOSES FOR PAYLOAD OPERATIONS INTEGRATION DURING INCREMENT PREPARATION:

- A. PROVIDING OPERATIONS SAFETY FOR PAYLOADS
- B. AVOIDING MUTUAL INTERFERENCE BETWEEN ON-BOARD SYSTEMS AND PAYLOADS AND AMONG PAYLOADS IN ALL ISS MODULES AND SEGMENTS
- C. VERIFYING THE USE OF INTEGRATED ISS RESOURCES
- D. INCREASING THE TOTAL ISS EFFECTIVENESS

THE POIC, WITH PARTNER ELEMENT PAYLOAD OPERATIONS INTEGRATION (POI) AND PARTNER COMPLEMENT POI PARTICIPATION, LEADS THE DEVELOPMENT OF OPERATIONS PRODUCTS FOR STATION-WIDE PAYLOAD OPERATIONS SAFETY AND INTEGRATES PAYLOAD PROCEDURES, PAYLOAD OPERATIONS PLANS, AND FLIGHT RULES AFFECTING MULTIPLE ELEMENTS OR PARTNERS. THE POIC ENSURES THE CONSISTENCY OF OPERATIONAL PRODUCTS (PROCEDURES, RULES, PLANS, ETC.) ACROSS ALL PARTNER INPUTS. THROUGH INTEGRATION ACTIVITIES AND MONITORING PAYLOAD OPERATIONS EXECUTION AND STATUS, THE POIC ENSURES OPERATIONS COMPATIBILITY, SAFETY AND RESOURCE INTEGRATION. THE POIC PROVIDES PAYLOAD INPUTS TO THE MISSION CONTROL CENTER - HOUSTON (MCC-H) FOR INTEGRATION INTO ISS OPERATIONS PLANS.

M2.1-2 PCC AUTHORITY AND RESPONSIBILITY

PCCs ARE SINGLE POINTS OF CONTACT FOR COORDINATING PAYLOAD AND ASSOCIATED PAYLOAD SUPPORT SYSTEM (PLSS) OPERATIONS WITH STATION-WIDE PAYLOAD OPERATIONS INTEGRATION FUNCTIONS AT THE POIC. PCCs ARE RESPONSIBLE FOR COORDINATING ALL PARTNER PAYLOAD OPERATIONS WITHIN THEIR SEGMENT. PCCs ARE ALSO RESPONSIBLE FOR COORDINATING THEIR OWN PARTNER-SPONSORED PAYLOAD OPERATIONS ACROSS ALL SEGMENTS ON THE ISS.

PCCs:

- A. COORDINATE WITH THE POIC PAYLOAD OPERATIONS CHANGES TO THE PAYLOAD OPERATIONS PLANS REQUIRING CHANGES IN USE OF ALLOCATED OR SHARED RESOURCES.
- B. ENSURE ALL PARTNER PAYLOADS WITHIN THEIR SEGMENT ARE PLANNED AND OPERATED WITHIN ESTABLISHED RULES, REGULATIONS, CONSTRAINTS, AND RESOURCE DISTRIBUTIONS.

MULTILATERAL PAYLOAD REGULATIONS

- C. ARE RESPONSIBLE FOR TRACKING PARTNER PAYLOAD COMPLEMENT SCIENCE PROGRESS AND ACCOMPLISHMENTS.
- D. IN JOINT EFFORT WITH THE POIC, MAKE THE MOST EFFECTIVE USE POSSIBLE OF PAYLOAD RESOURCES. THIS JOINT EFFORT FOCUSES ON ACHIEVING THE HIGHEST POSSIBLE SCIENCE RETURN FOR THE GIVEN CONDITIONS.

Rationale: The Increment Scientist may consider payload progress and accomplishments when establishing payload guidelines and priorities.

DOCUMENTATION: SPIP Vol. 9, Sections 4.1.3.3 - 4.1.3.6

FLIGHT/INCREMENT APPLICABILITY: Generic

M2.1-3 PAYLOAD OPERATIONS CONTROL BOARD

- A. THE PAYLOAD OPERATIONS CONTROL BOARD (POCB) CONTROLS THE BASELINE FOR THIS DOCUMENT.
- B. WHERE REALTIME SITUATIONS OCCUR FOR WHICH THIS DOCUMENT DOES NOT CONTAIN EXPLICIT GUIDANCE, THE POCB EXPECTS THAT REALTIME OPERATORS WILL ACT ACCORDING TO THE SPIRIT OF THE DECISIONS CONTAINED IN THIS DOCUMENT. UNDER SUCH CIRCUMSTANCES, OPERATORS SHALL DOCUMENT THEIR ACTIONS, INCLUDING THEIR RATIONALE FOR THEIR ACTIONS, AND FORWARD PROPOSED ADDITIONS OR RECOMMENDED CHANGES TO THIS DOCUMENT TO THE POCB.
- C. THE POCB CONSTITUTES THE CONTROLLING AUTHORITY FOR ALL DOCUMENTS PRODUCED TO IMPLEMENT THE PROVISIONS OF THE MULTILATERAL PAYLOAD REGULATIONS. THE PARTNERS SHALL EXERCISE CONTROL OF IMPLEMENTATION DOCUMENTATION THROUGH THEIR PARTICIPATION IN THE POCB. MATTERS THAT CANNOT BE RESOLVED WITHIN THE AUTHORITY OF THE POCB SHALL BE REFERRED TO THE TBD.

DOCUMENTATION: SPIP, Vol. 1

FLIGHT/INCREMENT APPLICABILITY: Generic

MULTILATERAL PAYLOAD REGULATIONS

SECTION M3 - PAYLOAD OPERATIONS

M3.1-1 NOTIFICATION OF ANOMALIES

- A. PCCs SHALL NOTIFY THE POIC OF ALL PAYLOAD ANOMALIES, ESPECIALLY ANY ANOMALIES THAT COULD AFFECT PAYLOADS OR SYSTEMS OPERATIONS IN OTHER SEGMENTS.
- B. THE POIC SHALL INFORM THE PCCs OF ALL PAYLOAD AND SYSTEM ANOMALIES THAT COULD AFFECT PAYLOAD OPERATIONS IN PARTNER ELEMENTS.

Rationale: The POIC considers all anomalies as having potential impact on Station-wide payload operations. POIC is responsible to the MCC-H Flight Director (FD) and the PCCs for maintaining awareness of, and coordinating Station-wide payload operations and payload usage of ISS systems.

FLIGHT/INCREMENT APPLICABILITY: Generic

M3.1-2 PAYLOAD ANOMALY RESOLUTION

- A. WHEN A NON-SAFETY-RELATED PAYLOAD ANOMALY OCCURS, THE APPROPRIATE PCC WILL ENSURE THE PAYLOAD FAILURE AND RESOLUTION EFFORTS DO NOT INTERFERE WITH OTHER ISS OPERATIONS.
- B. THE PCC SHALL SAFE THE PAYLOAD REGARDLESS OF RESOURCE REQUIREMENTS. THE PCC MAY USE THEIR RESOURCE ALLOCATION TO PERFORM ANOMALY RESOLUTION EFFORTS BEYOND SAFING THE PAYLOAD.
- C. THE PCC SHALL SUBMIT A CHANGE REQUEST TO THE POIC POD WHEN ANOMALY RESOLUTION EFFORTS, BEYOND SAFING THE PAYLOAD, REQUIRE ADDITIONAL RESOURCES. THE POIC MAY SCHEDULE THESE ANOMALY RESOLUTION EFFORTS IN A FUTURE PLANNING CYCLE.

Rationale: PCC constitutes the focal point for keeping Partner payload operations from interfering with other Partners' payload operations. The PCC will make every effort to preserve the integrity and functionality of payload hardware. The PCC will work the problem or perform other approved operations within their existing Partner resources. The current philosophy for ISS operations during REALTIME contingencies is to minimize realtime replanning, avoid redistribution of envelopes due to time constraints, and to return-to-baseline (M3.1-3) as soon as possible. The environment on-board the ISS allows time to thoroughly assess and resolve on-orbit anomalies through the nominal planning process, thereby supporting the aforementioned philosophy. This regulation was derived from a MIR Phase I Lesson Learned.

DOCUMENTATION: SPIP Vol. 9, Section 4.3

FLIGHT/INCREMENT APPLICABILITY: Generic

M3.1-3 RETURN-TO-BASELINE

THE ISS REALTIME PHILOSOPHY IS TO USE THE ON-BOARD SHORT-TERM PLAN (OSTP) AS THE BASIS FOR CONDUCTING ON-BOARD ISS OPERATIONS. IN THE

MULTILATERAL PAYLOAD REGULATIONS

EVENT OF DEVIATIONS OR ALTERATIONS FROM THE OSTP, THE CREW, MCC-H, POIC, AND PCCs WILL WORK TO MINIMIZE THE INTERRUPTIONS AND RETURN TO THE BASELINE SCHEDULE AS SOON AS SAFE AND PRACTICAL.

Rationale: Executing well-planned baseline payload operations constitutes one of the primary means by which the POIC and PCCs insure safety and non-interference among payloads. Each realtime deviation from planned operations introduces an unknown element of risk to both safety and mutual non-interference. Enforcement of this regulation minimizes this risk by requiring operators to return to the well-planned baseline, rather than being expected to consider under the pressure of realtime everything that goes into planning safe operations.

DOCUMENTATION: SPIP Vol. 9, paragraph 4.3.1 D

FLIGHT/INCREMENT APPLICABILITY: Generic

M3.1-4 UNAVAILABLE CREWMEMBER

(TBR: Russians to coordinate agreement on their side)

IN THE EVENT THAT A CREWMEMBER BECOMES UNAVAILABLE OR PARTIALLY UNAVAILABLE FOR PAYLOAD OPERATIONS, THE POD WILL DIRECT PAYLOAD OPERATIONS REPLANNING ACTIONS. THE RECOVERY PLAN WILL BE BASED ON INPUTS FROM THE LEAD INCREMENT SCIENTIST (LIS), POIC, PARTNERS, THE AFFECTED CREWMEMBER'S WORKLOAD CAPACITY, FLIGHT SURGEON INPUTS, AND PLANNING TEAM RECOMMENDATIONS.

Rationale: An attempt will be made to preserve the OSTP to the maximum extent possible, while preserving payload operations to the maximum extent possible.

DOCUMENTATION: SPIP Vol. 9, Section 4.3

FLIGHT/INCREMENT APPLICABILITY: Generic

M3.1-5 PAYLOAD PRIORITIES DURING REALTIME

(TBR pending documentation, coordination, and International Partner (IP) agreement with the definition of the role of the LIS.)

THE LIS WILL PROVIDE SCIENCE PRIORITIES AS NEEDED DURING REALTIME OPERATIONS.

Rationale: The POD is the final authority to the Flight Director for all realtime payload operations decisions. However, when operational conditions permit any of several science operations to be accomplished, the POD will need input from the science community. The LIS provides the final integrated science community input.

FLIGHT/INCREMENT APPLICABILITY: Generic

M3.1-6 PAYLOAD PRIORITIES DURING REPLANNING

(TBR pending multilateral agreement)

USE OF RESOURCES MADE AVAILABLE TO PAYLOAD OPERATIONS ARE TO BE

MULTILATERAL PAYLOAD REGULATIONS

PRIORITIZED ACCORDING TO THE FOLLOWING CRITERIA (IN THIS ORDER).

- A. REPLANNED ACTIVITIES REQUIRED TO MAINTAIN/REGAIN A SAFE STATE FOR PAYLOAD HARDWARE
- B. ACTIVITIES ALREADY ON THE BASELINE TIMELINE
- C. ACTIVITIES THAT WERE LOST DUE TO ISS OR ELEMENT PROBLEMS
- D. ACTIVITIES LOST DUE TO CREW UNAVAILABILITY
- E. TASKS THAT MUST BE COMPLETED TO AVOID/MINIMIZE IMPACTING NOMINAL ACTIVITIES OF THE NEXT STP ITERATION
- F. ALL OTHER TASKS (AS DOCUMENTED IN EACH PARTNER'S PL REG EQUIVALENT)

Rationale: The above priorities were established based on payload programmatic priorities of first achieving successful completion of the current mission and then minimizing the impact to future missions. The LIS REP may input science priorities that may affect the priorities listed above. The POD will make the final decision.

Rationale: Decisions regarding the use of freed-up resources or for any other type of replanning should follow this prescribed set of priorities. The Payload Operations Director (POD) will make the final decision, based on inputs from the user community and the cadre, and will be guided by this set of operational priorities and the ability for onboard and ground systems and personnel to implement the result. Substitutions must fit in current configuration/resource allocations. Minor changes should fit into the available resource distribution. Significant changes may require a redistribution of resources. Changes that require a redistribution of resources will not be accepted unless agreed to by affected payloads/systems.

FLIGHT/INCREMENT APPLICABILITY: 5A.1 and subs

M3.1-7 PAYLOAD OPERATIONS ACTIVITIES

- A. DURING PLANNED OPERATIONS ALL PAYLOADS SHALL BE OPERATED ACCORDING TO THE OSTP AND THE POD APPROVED PAYLOAD PLANNING PRODUCTS.

Rationale: Individual segment plans will become part of the STP and OSTP through the planning process.

- B. PCC SHALL NOTIFY THE POIC WHEN ACTIVITIES IN THEIR SEGMENT DEVIATE FROM THE PUBLISHED PLAN.

Rationale: The POIC assumes that activities in Partner segments are on schedule according to the published plan. The POIC makes decisions affecting proposed changes, other partners, and future activities based on this assumption. Therefore, when activities in a segment are not being conducted according to the published plan, the POIC needs to know.

FLIGHT/INCREMENT APPLICABILITY: Generic

MULTILATERAL PAYLOAD REGULATIONS

M3.1-8 PAYLOAD OPERATIONS SUPPORT

PCCs SHALL ENSURE THAT OPERATIONS SUPPORT IS AVAILABLE DURING PARTNER PAYLOAD OPERATIONS.

Rationale: PCCs operate independently but must support the POIC by ensuring, for example, that operations personnel are available with the capability to safe payloads, respond to anomalies, provide status, and make operational decisions as required to support POIC responsibilities to Station-wide payload operations.

FLIGHT/INCREMENT APPLICABILITY: Generic

M3.1-9 CHANGES AFFECTING SHARED RESOURCES

PCCs SHALL SUBMIT ALL CHANGES AFFECTING SHARED RESOURCES, MULTI-SEGMENT OPERATIONS, OR COMPATIBILITY TO THE POIC.

Rationale: The POIC has Station-wide responsibility for payload operations, resources, and compatibility regardless of the segment in which they occur. Changes affecting payload safety must be handled according to the appropriate Flight Rules.

DOCUMENTATION: SPIP Vol. 9, paragraph 7.2

FLIGHT/INCREMENT APPLICABILITY: Generic

M3.1-10 SAFING PAYLOADS

FOR ON-BOARD ANOMALIES AFFECTING THE PAYLOAD, PCCs SHALL ENSURE THAT PAYLOADS ARE SAFED.

Rationale: Anomalies affecting payloads shall not be allowed to cause harm or damage to the payload or its components.

M3.1-11 ACCESS TO OPERATIONS PRODUCTS

ACCESS TO OPERATIONS PRODUCTS (PLANS, PROCEDURES, PROPOSED CHANGES, ETC.) SHALL NOT BE RESTRICTED IN THEIR DISTRIBUTION TO PERSONNEL TASKED WITH ASSESSING IMPACTS TO OPERATIONS.

Rationale: Plans, procedures, and proposed changes to them will not be restricted in distribution by claim of proprietary or medically sensitive reasons. However, proprietary or medically sensitive data generated downlinked during operations may be procedurally restricted from distribution.

FLIGHT/INCREMENT APPLICABILITY: Generic

M3.1-12 PRIVATE CREW COMMUNICATIONS

PRIVATE CREW COMMUNICATIONS BY WHATEVER MEDIUM SHALL BE PROTECTED FROM DISTRIBUTION BEYOND PERSONS WITH IMMEDIATE NEED TO KNOW.

Rationale: Private crew communications include Private Family Conferences, Private Medical Conferences, Private

MULTILATERAL PAYLOAD REGULATIONS

Psychological Conferences, and any other communications, including electronic mail, which are not appropriate for distribution beyond the specific addressees.

FLIGHT/INCREMENT APPLICABILITY: Generic

MULTILATERAL PAYLOAD REGULATIONS

SECTION M4 - PAYLOAD AUTOMATED PROCEDURES (This section applies only to the USOS)

M4.1-1 GENERAL PAYLOAD AUTOMATED PROCEDURES

ALL PAYLOAD AUTOMATED PROCEDURES AND PROCEDURES UPDATES SHALL CONFORM TO OPERATIONS DATA FILE (ODF) PROCEDURES STANDARDS, SSP 50253, AND OPERATIONS NOMENCLATURE, SSP 50254. WHEN SCHEDULED, PAYLOAD AUTOMATED PROCEDURES WILL BE LISTED IN THE STP AND OSTP.

- A. THE PAYLOAD USER SHALL VALIDATE ALL PAYLOAD AUTOMATED PROCEDURES AND UPDATES IN ACCORDANCE WITH THE INTERNATIONAL PARTNERS' ODF MANAGEMENT PLAN REGARDING THAT INTERNATIONAL PARTNER'S PAYLOAD PROCEDURE RESIDENCY. PROCEDURE RESIDENCY WILL BE IN ACCORDANCE WITH THE ODF MANAGEMENT PLAN (SSP 50252).
- B. THE POIC SHALL VERIFY AS COMPLIANT WITH AUTOMATED PROCEDURES STANDARDS AND COMMAND FORMATS ALL PAYLOAD AUTOMATED PROCEDURES AND UPDATES IN ACCORDANCE WITH THE INTERNATIONAL PARTNERS' ODF MANAGEMENT PLAN REGARDING THAT INTERNATIONAL PARTNER'S PAYLOAD PROCEDURE RESIDENCY. PROCEDURE RESIDENCY WILL BE IN ACCORDANCE WITH THE ODF MANAGEMENT PLAN (SSP 50252).
- C. THE POIC SHALL VERIFY ALL AUTOMATED PROCEDURES AND UPDATES FOR NON-INTERFERENCE WITH OTHER PAYLOADS IN ACCORDANCE WITH THE INTERNATIONAL PARTNERS' ODF MANAGEMENT PLAN REGARDING THAT INTERNATIONAL PARTNER'S PAYLOAD PROCEDURE RESIDENCY. PROCEDURE RESIDENCY WILL BE IN ACCORDANCE WITH PARAGRAPH 2.3 AND TABLE 2.3-1 OF THE ODF MANAGEMENT PLAN (SSP 50252).

DOCUMENTATION: ODF Management Plan (SSP 50252)

FLIGHT/INCREMENT APPLICABILITY: United States On-orbit Segment (USOS) Generic

M4.1-2 APPROVED AUTOMATED OPERATIONS/PROCEDURES

ONLY ODF CHARTERED CONTROL BOARD AUTOMATED PROCEDURES WILL BE INITIATED BY THE PCCs OR THE CREW. (SEE FLIGHT RULES - THE EXCEPTION TO THIS IS CREW COMMAND SAFING FROM A HAZARDOUS CONDITION.)

Rationale: The MCC-H will have the ultimate responsibility to perform, or authorize PCCs/crew to perform, operations or operational steps which are not a part of ODF chartered control board procedures in the event that such actions must be taken.

FLIGHT/INCREMENT APPLICABILITY: USOS Generic

MULTILATERAL PAYLOAD REGULATIONS

SECTION M5 - CREW PROCEDURES

M5.1-1 GENERAL PROCEDURES

ALL MANUAL PROCEDURES AND PROCEDURES UPDATES SHALL CONFORM TO ODF PROCEDURES STANDARDS, SSP 50253, AND OPERATIONS NOMENCLATURE, SSP 50254. MANUAL PROCEDURES WILL BE DOCUMENTED IN THE STP AND OSTP WHEN SCHEDULED.

- A. THE PAYLOAD USER SHALL VALIDATE ALL PAYLOAD MANUAL PROCEDURES AND PROCEDURES UPDATES IN ACCORDANCE WITH THE INTERNATIONAL PARTNERS' ODF MANAGEMENT PLAN REGARDING THAT INTERNATIONAL PARTNER'S PAYLOAD PROCEDURE RESIDENCY. PROCEDURE RESIDENCY WILL BE IN ACCORDANCE WITH PARAGRAPH 2.3 AND TABLE 2.3-1 OF THE ODF MANAGEMENT PLAN (SSP 50252).
- B. THE POIC SHALL VERIFY AS COMPLIANT WITH PROCEDURES STANDARDS AND OPERATIONS NOMENCLATURE ALL PAYLOAD MANUAL PROCEDURES AND PROCEDURES UPDATES IN ACCORDANCE WITH THE INTERNATIONAL PARTNERS' ODF MANAGEMENT PLAN REGARDING THAT INTERNATIONAL PARTNER'S PAYLOAD PROCEDURE RESIDENCY. PROCEDURE RESIDENCY WILL BE IN ACCORDANCE WITH PARAGRAPH 2.3 AND TABLE 2.3-1 OF THE ODF MANAGEMENT PLAN (SSP 50252).
- C. THE POIC SHALL VERIFY ALL PAYLOAD MANUAL PROCEDURES AND PROCEDURES UPDATES FOR NON-INTERFERENCE WITH OTHER PAYLOADS IN ACCORDANCE WITH THE INTERNATIONAL PARTNERS' ODF MANAGEMENT PLAN REGARDING THAT INTERNATIONAL PARTNER'S PAYLOAD PROCEDURE RESIDENCY. PROCEDURE RESIDENCY WILL BE IN ACCORDANCE WITH PARAGRAPH 2.3 AND TABLE 2.3-1 OF THE ODF MANAGEMENT PLAN (SSP 50252).

DOCUMENTATION: ODF Management Plan (SSP 50252)

FLIGHT/INCREMENT APPLICABILITY: Generic

M5.1-2 APPROVED CREW OPERATIONS/PROCEDURES

ONLY ODF CHARTERED CONTROL BOARD CREW PROCEDURES WILL BE INITIATED BY THE PCCs OR THE CREW. (SEE FLIGHT RULES - THE EXCEPTION TO THIS IS CREW COMMAND SAFING FROM A HAZARDOUS CONDITION.)

Rationale: The MCC-H will have the ultimate responsibility to perform, or authorize PCCs/crew to perform, operations or operational steps which are not a part of ODF chartered control board procedures in the event that such actions must be taken.

FLIGHT/INCREMENT APPLICABILITY: Generic

M5.1-3 CREW INITIATION OF INVESTIGATION/RECOVERY PROCEDURES

MULTILATERAL PAYLOAD REGULATIONS

IF A PAYLOAD EXPERIENCES AN ANOMALY FOR WHICH AN ON-BOARD PROCEDURE EXISTS, THE CREW MAY PERFORM THE PROCEDURE WITHOUT PRIOR NOTIFICATION TO OR APPROVAL FROM THE GROUND AS LONG AS THE PROCEDURE CAN BE ACCOMPLISHED WITHIN THE PAYLOAD'S PLANNED ACTIVITY WINDOW.

Rationale: Given that anomaly investigation and/or recovery procedures exist on-board, and the necessary time and resources are already allocated to the affected payload, it may be desirable and beneficial for the crew to initiate such procedures without first notifying the ground. In many cases, this will speed the diagnosis and recovery process.

FLIGHT/INCREMENT APPLICABILITY: Generic

M5.1-4 TEMPORARY STOWAGE UTILIZATION

MANUAL PROCEDURES SHALL UTILIZE TEMPORARY STOWAGE OF PAYLOAD ITEMS ONLY FOR THE DURATION OF CREW INTERACTION WITH A PAYLOAD.

Rationale: Temporary stowage may be necessary for crew convenience in performing payload's activities. When the crew interaction is completed, items shall be returned to their long-term designated "home" stowage locations to minimize stowage congestion and to preserve the integrity of the Inventory Management System information.

FLIGHT/INCREMENT APPLICABILITY: Generic

MULTILATERAL PAYLOAD REGULATIONS

SECTION M6 - COMMAND AND DATA HANDLING (This Section applies only to the USOS)

M6.1-1 PAYLOAD LOW RATE TELEMETRY ALLOCATION

AS A LAST RESORT, PAYLOADS WHICH EXCEED THEIR PLANNED LOW RATE TELEMETRY (LRT) ALLOCATIONS MAY BE DEACTIVATED IF THEY CANNOT REDUCE THEIR REQUIREMENTS FOR LRT TO WITHIN THEIR ALLOCATION WHEN THEIR OPERATIONS INTERFERE WITH OTHER SCHEDULED PAYLOAD OPERATIONS ON THAT PARTICULAR PAYLOAD 1553 LOCAL BUS.

Rationale: Each Payload Local bus has the capability to support up to 100 Kbps of LRT from the Payload Locations attached to that bus. Bandwidth is allocated based on requests from the Payload to the Payload Multiplexer/Demultiplexer (PL MDM). No on-board mechanism restricts the amount of bandwidth being requested other than the 100 Kbps limit. Payloads that exceed their planned allocation may interfere with other scheduled payload operations.

FLIGHT/INCREMENT APPLICABILITY: Generic

M6.1-2 VIDEO SWITCHING UNIT (VSU) CONFIGURATION

INTERNATIONAL STANDARD PAYLOAD RACK (ISPR) VIDEO ROUTING WILL UTILIZE THE AUTO ROUTING METHOD WHENEVER POSSIBLE.

Rationale: Two methods are used to configure VSUs: Manual configuration and auto-routing software. Auto-routing configuration will be used to configure video routing paths between sources and destinations on board. ISPR locations are included in the auto-routing software tables to support these operations. The capability to route manually will be maintained.

FLIGHT/INCREMENT APPLICABILITY: Generic

M6.1-3 VSU SWITCHING

VSU SWITCHING WILL NOMINALLY BE CONFIGURED TO SWITCH ON EXTERNAL SYNCHRONIZATION.

Rationale: Depending on the synchronization switch configuration, the VSUs will switch on internal or external sync. Configuring the VSUs to switch on external sync provides synchronous switching of all VSUs for video routes that span multiple VSUs.

FLIGHT/INCREMENT APPLICABILITY: 6A and subs

M6.1-4 APS COMMANDING

WITHIN AN AUTOMATED PAYLOAD SWITCH (APS) COMMAND MESSAGE, A DESIGNATED APS INPUT CHANNEL SHALL NOT BE COMMANDED TO BE DISCONNECTED IF THE SAME APS COMMAND MESSAGE CONNECTED THE SAME INPUT CHANNEL TO AN OUTPUT. A SEPARATE COMMAND IS REQUIRED TO DISCONNECT THE APS INPUT CHANNEL ONCE IT IS CONNECTED TO AN OUTPUT.

MULTILATERAL PAYLOAD REGULATIONS

Rationale: Commanding an input channel to be connected and disconnected within a single message will cause the input channel to be disconnected, but the input receiver will be left powered. The impact of the input receiver being left powered is TBD.

FLIGHT/INCREMENT APPLICABILITY: 6A and subsequent

M6.1-5 APS BUILT-IN SELF-TEST

WITHIN AN APS COMMAND MESSAGE, THE APS BUILT-IN SELF-TEST (BIST) SHALL NOT BE FOLLOWED BY SWITCH CONFIGURATION COMMANDS.

Rationale: Issuing switch configuration commands following the BIST within a command message will result in the switch configuration commands being ignored by the APS since the BIST command ignores the contents of the input and output channel fields. Following the BIST, the APS configuration will result in all switches being open with receivers and transmitters deactivated.

FLIGHT/INCREMENT APPLICABILITY: Generic

M6.1-6 DATA FILE PRIORITY

GROUND ORIGINATED DATA LOADS AND FILE TRANSFER COMMANDS WILL HAVE PRIORITY OVER ON-BOARD DATA LOADS AND FILE TRANSFERS.

Rationale: Due to limited Acquisition of Signal (AOS) availability, the Command and Control (C&C) MDM software is designed to pause during on-board file transfers in the event a file transfer is received from the ground. The POIC will coordinate with the MCC-H for the scheduling and management of file transfer operations.

FLIGHT/INCREMENT APPLICABILITY: Generic

M6.1-7 FILE DOWNLINK PRIORITY

FILE DOWNLINK PACKETS WILL HAVE PRIORITY OVER DATA DUMP PACKETS.

Rationale: POIC POD will determine any exceptions.

FLIGHT/INCREMENT APPLICABILITY: Generic

M6.1-8 EXTENDED FILE DUMPS

EXTENDED FILE DUMPS ARE ONLY AVAILABLE FOR CREW HEALTH CARE SYSTEM (CHeCS) DEVICES VIA THE PL MDM.

Rationale: POIC POD will determine any exceptions.

FLIGHT/INCREMENT APPLICABILITY: Generic

MULTILATERAL PAYLOAD REGULATIONS

SECTION M7 - COMMUNICATIONS AND TRACKING

M7.1-1 RESTRICTIONS ON VIDEO VIEWING OF THE CREW DURING PAYLOAD OPERATIONS

GROUND COMMANDS TO ON-BOARD VIDEO SYSTEM THAT HAVE THE POTENTIAL TO VIEW THE CREW ARE ONLY PERMITTED WITH CONCURRENCE OF THE CREW AND WHILE GROUND CONTROLLERS CAN VIEW THE DOWNLINK. GROUND COMMANDS TO ON-BOARD VIDEO SYSTEM FOR NON-CREW VIDEO (SUCH AS INTERNAL OR CLOSE-UP VIEWS OF SCIENCE OR PAYLOADS) ARE PERMITTED.

Rationale: To avoid the downlink of inappropriate video of the crew that NASA or the crew would not want to be distributed. No controller shall uplink video commands that view the crew in realtime without being able to see the results of said command. The flight controller for video will have downlink capability before initiating video that may include scenes of the crew. However, video that is internal to the payload or is a close-up view may be commanded from the ground without downlink video verification since it is not possible for a crewmember to be in the field of view.

FLIGHT/INCREMENT APPLICABILITY: Generic

MULTILATERAL PAYLOAD REGULATIONS

SECTION M8 - RESOURCE MANAGEMENT

M8.1 NOMINAL OPERATIONS

M8.1-1 LATE INPUTS TO PLANNING PROCESS

DURING THE PLANNING CYCLE, POIC PLANNERS WILL DEFER TO A LATER PLANNING CYCLE DATA DELIVERED FROM PARTNERS TO THE POIC THAT DOES NOT MEET ESTABLISHED TIMING TEMPLATES FOR THE CYCLE. THE PARTNER RETAINS OWNERSHIP OF THE DISTRIBUTED RESOURCES UNTIL THE PARTNER FREES THOSE RESOURCES FOR REDISTRIBUTION.

Rationale: The short-term planning and realtime planning cycles are time critical. Due to delivery deadlines, planners cannot accommodate late inputs. Refer to JOIP, Volumes B and C, for established timing templates.

DOCUMENTATION: SPIP Vol. 9, Section 4.1.1 H
JOIP Vol. B and Vol. C

FLIGHT/INCREMENT APPLICABILITY: Generic

M8.1-2 RESOURCE ALLOCATIONS

THE ALLOCATION OF ON-ORBIT ISS RESOURCES TO BE USED FOR ON-ORBIT OPERATIONS SUMMARY (OOS) DEVELOPMENT SHALL BE OBTAINED FROM THE PERTINENT INCREMENT DEFINITION REQUIREMENTS DOCUMENT (IDRD).

Rationale: Each IDRD is a multilateral agreement under the authority of the Space Station Control Board and contains the capabilities and objectives of that increment and the resource and accommodation allocations to meet those objectives. As such, the IDRD provides the direction for baseline utilization planning.

DOCUMENTATION: The IDRDs

FLIGHT/INCREMENT APPLICABILITY: Generic

M8.1-3 PAYLOAD OPERATION WITHIN PARTNER RESOURCE DISTRIBUTION

EACH PCC SHALL CONDUCT PAYLOAD OPERATIONS WITHIN THE CORRESPONDING POIC-MANAGED RESOURCE DISTRIBUTIONS.

Rationale: To assure that overall payload resource usage does not exceed ISS capabilities and constraints and to follow the philosophy of distributed operations, Partners must ensure that they do not exceed their payload resource distributions.

FLIGHT/INCREMENT APPLICABILITY: Generic

M8.1-4 SHARING RESOURCES AMONG PARTNERS

PCCs MAY GIVE UNUSED DISTRIBUTED RESOURCES TO OTHER PCCs WITH POIC COORDINATION. THE POIC WILL TRACK PLANNED RESOURCE UTILIZATION

MULTILATERAL PAYLOAD REGULATIONS

AGAINST SCHEDULED ACTIVITIES, TO INCLUDE NEW PCC ACTIVITIES SCHEDULED AS A RESULT OF THE RESOURCE EXCHANGE. THE POIC WILL UPDATE THE REVISED PCC RESOURCE ALLOCATION FOR THE INCREMENT BASED ON RESULTS OF THE RESOURCE EXCHANGE.

Rationale: POIC must maintain cognizance of scheduled payload resource utilization to ensure increment resource distributions are in accordance with resource allocations.

FLIGHT/INCREMENT APPLICABILITY: Generic

M8.1-5 DISTRIBUTION OF UNUSED RESOURCES

- A. IF A PARTNER ACTIVITY HAS BEEN CANCELLED AFTER RESOURCES HAVE BEEN DISTRIBUTED TO THE PARTNER, THAT PARTNER MAY USE THOSE FREED RESOURCES FOR OTHER PLANNED PAYLOAD ACTIVITIES THAT CAN BE ACCOMPLISHED WITHIN THE REMAINING DISTRIBUTED RESOURCES.
- B. IF A PARTNER CANNOT USE FREED RESOURCES, THEY SHALL RETURN THOSE RESOURCES TO THE POIC FOR REDISTRIBUTION.

FLIGHT/INCREMENT APPLICABILITY: Generic

M8.1-6 REDUCTION IN PAYLOAD RESOURCES

IF SHARED PAYLOAD RESOURCES ARE REDUCED FOR PAYLOAD OPERATIONS DURING THE INCREMENT, THE POIC WILL COORDINATE WITH THE LIS AND PCCs TO ENSURE PAYLOAD OPERATIONS ARE REDUCED APPROPRIATELY.

FLIGHT/INCREMENT APPLICABILITY: Generic

M8.1-7 USE OF ADDITIONAL RESOURCES

SCHEDULING USE OF ADDITIONAL RESOURCES SHALL MINIMIZE CHANGES TO THE PLAN OUTLINED IN THE OOS OR THE STP.

Rationale: The current philosophy is to minimize replanning during realtime, due to time constraints and potential impacts to program participants.

FLIGHT/INCREMENT APPLICABILITY: Generic

M8.1-8 UNDISTRIBUTED CREW TIME

IF UNDISTRIBUTED CREW TIME BECOMES AVAILABLE, THE CREW WILL USE THIS TIME TO EXECUTE ACTIVITIES FROM A TASKLIST BASED ON RECOMMENDATIONS FROM THE PAYLOAD PLANNERS. RESOURCES SCHEDULED FOR THESE ACTIVITIES WILL BE EXPENDED FROM THE CREW ALLOCATION OF THE PARTNER THAT SPONSORS THE ACTIVITY.

MULTILATERAL PAYLOAD REGULATIONS

Rationale: The crew maintains a task list of activities that may be performed if previously undistributed time becomes available. Resources for activities from this list come from the allocation of the Partner who owns the payload.

FLIGHT/INCREMENT APPLICABILITY: Generic

M8.1-9 ON-BOARD TRAINING

RESOURCES UTILIZED DURING ON-BOARD TRAINING ACTIVITIES ARE PART OF THE RESPECTIVE PARTNER'S RESOURCE ALLOCATION.

Rationale: Resources for on-board payload training are accounted to payload utilization. As a result, Partners are required to include on-board training activities in their overall resource allocations.

FLIGHT/INCREMENT APPLICABILITY: Generic

M8.2 DEVIATIONS FROM BASELINE

M8.2-1 PARTNER RESOURCES DURING TROUBLESHOOTING

RESOURCES REQUIRED TO SUPPORT PARTNER TROUBLESHOOTING, CORRECTIVE ACTION, AND RECOVERY ACTIVITIES SHALL BE DEDUCTED FROM THE PARTNER'S APPROVED RESOURCE ALLOCATION.

Rationale: The POIC will assess POIC-controlled resources requested by a Partner to support payload troubleshooting activities.

FLIGHT/INCREMENT APPLICABILITY: Generic

MULTILATERAL PAYLOAD REGULATIONS

SECTION M9 - PAYLOAD SUPPORT SYSTEMS (THIS SECTION APPLIES ONLY TO THE USOS)

M9.1 GENERAL

M9.1-1 NOMINAL CONTROL OPERATIONS

WITHIN RESOURCE ALLOCATIONS, AND WITHIN THEIR RESPECTIVE SEGMENTS, THE PCCs ARE AUTHORIZED TO PERFORM SCHEDULED NOMINAL CONTROL OPERATIONS OF THE PAYLOAD SUPPORT SYSTEMS (PLSS) INDEPENDENT OF THE POIC OR MCC-H.

FLIGHT/INCREMENT APPLICABILITY: Generic

M9.1-2 UNPLANNED OPERATIONS

PCCs SHALL NOT PERFORM UNPLANNED PLSS CONTROL OPERATIONS WHICH INCREASE SEGMENT UTILIZATION OF DISTRIBUTED STATION-WIDE RESOURCES.

Rationale: Since all payloads share Station-wide resources, increased consumption of these resources could affect other payloads. These unplanned activities shall be coordinated through the POIC prior to implementation.

FLIGHT/INCREMENT APPLICABILITY: Generic

M9.1-3 CHANGE OF STATE

THE PCCs SHALL NOT CHANGE THE NOMINAL STATE OF THE STATION-WIDE RESOURCES EXCEPT AS REQUIRED BY THE APPROVED PLANNING PRODUCTS.

FLIGHT/INCREMENT APPLICABILITY: Generic.

M9.1-4 PCC COMMANDING OF PLSS

PCCs SHALL NOT COMMAND AND CONTROL THE PLSS IN SEGMENTS OTHER THAN THEIR OWN.

FLIGHT/INCREMENT APPLICABILITY: Generic

M9.1-5 USER COMMANDING OF PLSS

USERS LOCATED AT PCCs AND REMOTE SITES SHALL NOT SEND COMMANDS TO THE NASA PLSS.

Rationale: Users may not have sufficient insight into the integrated ISS operations. This does not preclude users from implementing control of PLSS resources inboard of the PLSS interface, such as the EXpedite the PRocessing of EXperiments to Space Station (EXPRESS) Rack utilities panel or experiment valves.

MULTILATERAL PAYLOAD REGULATIONS

FLIGHT/INCREMENT APPLICABILITY: Generic

M9.1-6 APPROVED PLSS OPERATIONS/PROCEDURES

ONLY ODF CHARTERED CONTROL BOARD PLSS PROCEDURES WILL BE INITIATED BY THE PCCs OR THE CREW. (SEE FLIGHT RULES - THE EXCEPTION TO THIS IS CREW COMMAND SAFING FROM A HAZARDOUS CONDITION.)

Rationale: The MCC-H will have the ultimate responsibility to perform, or authorize PCCs/crew to perform, operations or operational steps which are not a part of ODF chartered control board procedures in the event that such actions must be taken.

FLIGHT/INCREMENT APPLICABILITY: Generic

M9.2 DEVIATIONS FROM BASELINE

M9.2-1 NOTIFICATION OF PLSS NON-STANDARD CONDITIONS

MCC-H WILL NOTIFY THE POIC OF ANY NON-STANDARD PLSS CONFIGURATIONS OR WORKAROUNDS IN EFFECT OR PLANNED THAT MAY AFFECT PAYLOAD OPERATIONS. THE POIC IN TURN NOTIFIES THE AFFECTED PCCs.

FLIGHT/INCREMENT APPLICABILITY: Generic

M9.2-2 PLSS RESOURCE LOAD SHEDDING

A. POIC WILL PROVIDE PCCs AND USERS WITH NOTIFICATION OF RESOURCE LOAD SHEDDING IN ALL BUT EMERGENCY SAFING OPERATIONS.

Rationale: Removal of resources from payloads may require special sequencing that would be precluded if resource were removed without proper preparation. Loss of science, damage to payload equipment, or inability to restart may result.

FLIGHT/INCREMENT APPLICABILITY: Generic

B. THE POIC WILL DEFINE AND MAINTAIN REALTIME PRIORITIES ASSOCIATED WITH THE PCCs AND PAYLOADS, INCLUDING PARTNER SUPPORT EQUIPMENT, TO BE INCLUDED IN THE LOAD SHED TABLES.

Rationale: Load shedding is performed automatically by the C&C MDMs to satisfy power management requirements. Load shed tables are stored on the C&C MDMs for each primary power distribution channel. Each load shed table includes a payload block for payloads and PLSS.

FLIGHT/INCREMENT APPLICABILITY: Applies to NASA, Canadian Space Agency (CSA), European Space Agency (ESA), and National Agency of Space Development (NASDA).

MULTILATERAL PAYLOAD REGULATIONS

M9.2-3 POWER INTERRUPTIONS

MCC-H WILL LIMIT PAYLOAD POWER DISRUPTIONS TO 6 HOURS DURING ASSEMBLY OPERATIONS .

Rationale: Prior to flight 13A, only two power channels will be available to support operations. Payload power will be intermittent as channels are powered down to support assembly operations. Nominal Extravehicular Activities (EVA) last 6 hours, which may result in power disruptions of 6 hours or more in the event that power is required to be disabled for EVA preparation or extension activities. Payloads are required to be designed to be safe without services in accordance with NSTS 1700.7B, ISS Addendum.

FLIGHT/INCREMENT APPLICABILITY: All increments prior to Assembly Complete

M9.2-4 UNPLANNED COMMANDING OF PAYLOAD SUPPORT SYSTEMS

THE POD SHALL APPROVE/DISAPPROVE ALL UNPLANNED COMMANDING OF PLSS PRIOR TO UPLINK AND EXECUTION OF ANY COMMAND(S) .

Rationale: During the planning and preparation processes, MCC-H analyzes and understands the effects of planned commanding on other ISS Systems. Therefore, MCC-H delegates execution of planned commanding of the PLSS to the POIC. Unplanned commanding may cause a departure from the analyzed and expected states of PLSS. This requires coordination with MCC-H. As a member of the MCC-H FD's Team, the POD ensures that this coordination is accomplished and that unplanned commanding will not introduce problems for other ISS systems.

FLIGHT/INCREMENT APPLICABILITY: Increment 2 and subsequent

MULTILATERAL PAYLOAD REGULATIONS

SECTION M10 - FILE MANAGEMENT

M10.1-1 FILE UPLINKS

PRIOR TO UPLINKING TO THE ISS THROUGH TRACKING AND DATA RELAY SATELLITE SYSTEM (TDRSS), THE POIC WILL MANAGE AND SCHEDULE ALL PAYLOAD FILE UPLINKS.

Rationale: To ensure efficient utilization of the limited TDRSS resources and to provide a single point of contact for (MCC-H) controllers.

FLIGHT/INCREMENT APPLICABILITY: Generic

M10.1-2 FILE UPLINK SCHEDULE

ALL PCCs USING TDRSS S-BAND UPLINK WILL PROVIDE THE POIC A SCHEDULE OF ALL PLANNED PAYLOAD FILE UPLINKS FOR EVERY PLANNING PERIOD.

Rationale: The POIC has the responsibility of creating and maintaining an Integrated Payload File Uplink Schedule. The POIC and MCC-H use this schedule for managing TDRSS uplink resources.

FLIGHT/INCREMENT APPLICABILITY: Generic

M10.1-3 PAYLOAD FILE TRANSFER MANAGEMENT

THE POIC SHALL MANAGE PAYLOAD AND PLSS FILE TRANSFERS IN SUPPORT OF PAYLOAD OPERATIONS. THE POIC SHALL MANAGE THE CONTENTS OF THE PL MDM MASS STORAGE DEVICE (MSD). THE INTERNATIONAL PARTNER CONTROL CENTERS SHALL COORDINATE PAYLOAD FILE TRANSFER REQUIREMENTS DURING THE PLANNING PROCESS.

Rationale: The POIC integrates payload file transfer requirements into a payload file transfer plan. The POIC will coordinate and perform file transfer operations in accordance with the POIC approved plan. The POIC responsibility for file transfer operations includes the management of IP files which bypass the POIC.

FLIGHT/INCREMENT APPLICABILITY: Generic

MULTILATERAL PAYLOAD REGULATIONS

SECTION M11 - GROUND SYSTEMS

M11.1-1 FAILURE OF REMOTE COMMAND LINKS

IN THE EVENT OF A FAILURE OF THE COMMAND LINK BETWEEN A REMOTE USER SITE, INCLUDING PCCs, AND THE POIC, THE POIC MAY PROVIDE BACKUP COMMAND CAPABILITY.

Rationale: A disruption in command traffic could result in undesirable impacts to the OSTP. Based on pre-increment agreements, remote users and PCCs may request the POIC to provide a backup command capability in the event the remote site command link is unavailable. Backup commanding must be approved by the POD and will be subject to the limitations of the POIC facility configuration and associated capabilities.

FLIGHT/INCREMENT APPLICABILITY: Applies only to the USOS.

M11.1-2 AVAILABILITY OF OPERATIONS PRODUCTS

POIC OPERATIONS PRODUCTS WILL BE PROVIDED TO REMOTE USERS AND PCCs VIA THE WORLD WIDE WEB.

Rationale: As a standard service to remote users, the POIC will authorize access and will post operations products on the POIC World Wide Web site. Remote users are responsible for providing their own hardware, software, connectivity, and Internet Service Provider to access the POIC-provided site.

FLIGHT/INCREMENT APPLICABILITY: Generic

MULTILATERAL PAYLOAD REGULATIONS

SECTION M12 - CREW COMMUNICATIONS

M12.1-1 PAYLOAD OPERATIONS DURING CREW SLEEP

PAYLOAD/PLSS OPERATIONS REQUIRING CREW ACTIVITY SHALL NOT BE SCHEDULED FOR PERIODS OF CREW SLEEP.

Rationale: The crew must perform payload/PLSS operations during Loss of Signal (LOS). Established groundrules do not allow disturbing the crew during sleep. Planning must accommodate this groundrule by not scheduling payload/PLSS operations that require crew action during sleep.

FLIGHT/INCREMENT APPLICABILITY: Generic

M12.1-2 GROUND COMMANDING OR AUTOMATED PROCEDURES

NOMINAL GROUND COMMANDING AND AUTOMATED PROCEDURES EXECUTED DURING CREW SLEEP PERIODS SHALL NOT CREATE ANY CONDITION THAT COULD AWAKEN A CREWMEMBER.

Rationale: The noise, vibration, or thermal changes due to payload operations could wake up the crew.

FLIGHT/INCREMENT APPLICABILITY: Generic

M12.1-3 MONITORING FLIGHT CREW COMMUNICATIONS

IF THE FLIGHT CREW IS OPERATING PARTNER PAYLOADS AND SPACE-TO-GROUND AND/OR AIR-TO-GROUND COMMUNICATIONS ARE AVAILABLE, THE PCC WILL MONITOR THESE LOOPS IN CASE THERE ARE CREW QUESTIONS OR COMMENTS. CADRE MEMBERS AND PAYLOAD USER TEAMS SHALL MONITOR PAYLOAD ACTIVITIES DURING COMMUNICATIONS WITH THE FLIGHT CREW. LOOPS TO BE MONITORED ARE A/G, S/G, AND POD. ALL REALTIME LOOP VOICE TRAFFIC SHOULD FOCUS ON THE CREW VOICE TRAFFIC.

Rationale: PCCs and Payload Developers (PD) need to monitor S/G and/or A/G during their payload operations involving the crew. The crew may call with questions or comments, so the ground must be prepared in the event they are called upon for information. Monitoring will ensure timely responses to on-board situations. Crew voice traffic is expected to be limited. All realtime activity changes are briefed and approved on the POD loop. Therefore, monitoring the POD loop ensures everyone remains cognizant of current situations/plans.

FLIGHT/INCREMENT APPLICABILITY: Generic

M12.1-4 SPACE-TO-GROUND VOICE COMMUNICATIONS FOR PAYLOAD OPERATIONS

PCCs WILL COMMUNICATE DIRECTLY WITH THE ISS CREW ONLY WHEN NECESSARY AND WITHIN THE FOLLOWING GUIDELINES.

- A. PCCs WILL NOMINALLY COMMUNICATE WITH THE ISS CREW ONLY AT SCHEDULED TIMES (DPC/DAR/WPC) OR AS REQUESTED BY THE CREW.

MULTILATERAL PAYLOAD REGULATIONS

- B. PCC-INITIATED VOICE CONTACT WITH THE CREW AT UNSCHEDULED TIMES WILL BE MADE FOR SAFETY, PAYLOAD HEALTH, OR SCIENCE CRITICAL REASONS ONLY, AND ONLY UPON APPROVAL OF THE MCC-H FLIGHT DIRECTOR.
- C. "NEGATIVE REPORTING" WILL BE THE EXPECTED MODE OF OPERATION. IT WILL BE ASSUMED THAT OPERATIONS ARE PROCEEDING NOMINALLY AND ON SCHEDULE UNLESS THE CREW REPORTS OTHERWISE.
- D. PROCEDURE AND OSTP CHANGES SHOULD NOT BE "VOICED." THEY SHOULD BE UPLINKED TO MODIFY EXISTING ON-BOARD FILES AND THUS BE INVISIBLE TO THE CREW.

Rationale: Voice communications with the crew should be kept to a minimum to reduce interruptions to the crew's work day. The physical location of the communications equipment and the nature of the work environment on ISS often make it difficult for the crew to stop work and answer calls from the ground. This rule applies to the POIC and MCC-M only because these two centers have S/G voice capability.

FLIGHT/INCREMENT APPLICABILITY: Generic

M12.1-5 COMMUNICATIONS DURING RUSSIAN GROUND SITE PASSES

UNDER NORMAL CIRCUMSTANCES, POIC FLIGHT CONTROLLERS SHALL NOT INITIATE VOICE LOOP DISCUSSIONS WITH MCC-M PAYLOAD FLIGHT CONTROLLERS DURING RUSSIAN GROUND SITE PASSES.

Rationale: Ground site passes with ISS are brief periods of intense activity for MCC-M flight controllers and can include voice with the ISS crew, commanding and telemetry. The time periods just prior to, during, and just after these ground passes should be reserved for MCC-M ground site pass-related activity. Non-time-critical voice communications should wait until these activities have been concluded for a specific ground site pass.

FLIGHT/INCREMENT APPLICABILITY: Generic

M12.1-6 S/G VOICE USE FOR PARTNERS AND PRINCIPAL INVESTIGATORS

A PARTNER OR PRINCIPAL INVESTIGATOR/PAYLOAD DEVELOPER (PI/PD) MAY BE ENABLED ON S/G FOR THE FOLLOWING CASES:

- A. AT A CREWMEMBER'S REQUEST.
- B. INITIAL OPERATIONS OF A COMPLEX PAYLOAD ARE TO BE PERFORMED.
- C. WHEN IT IS NECESSARY FOR A PARTNER OR PI TO DISCUSS REALTIME PAYLOAD OPERATIONS, DATA, OR SCIENCE RESULTS WITH THE CREW. TO THE MAXIMUM EXTENT POSSIBLE, CREW COMMUNICATIONS WILL BE SCHEDULED IN THE OSTP.

Rationale: S/G traffic should be maintained as essential voice traffic only. Partner and PI-requested voice traffic should

MULTILATERAL PAYLOAD REGULATIONS

be approved during OSTP planning.

FLIGHT/INCREMENT APPLICABILITY: Generic

M12.1-7 CREW E-MAIL

E-MAIL ORBITAL COMMUNICATIONS ADAPTOR (OCA) MESSAGES TO THE CREW SHOULD BE INFORMATIONAL ONLY. NO OPERATIONAL DIRECTION SHALL BE SENT TO THE CREW VIA E-MAIL.

FLIGHT/INCREMENT APPLICABILITY: Generic

MULTILATERAL PAYLOAD REGULATIONS

SECTION M13 - OPERATIONS PREPARATION

M13.1-1 LATE INPUTS TO PLANNING PRODUCTS

DURING THE PRE-INCREMENT PLANNING CYCLE, POIC PLANNERS WILL DEFER TO A LATER PLANNING CYCLE DATA DELIVERED FROM PARTNERS TO THE POIC THAT DOES NOT MEET ESTABLISHED TIMING TEMPLATES FOR THE CYCLE. THE PARTNER RETAINS OWNERSHIP OF RESOURCES DISTRIBUTED ACCORDING TO THE IDRD UNTIL THE PARTNER FREES THOSE RESOURCES FOR REDISTRIBUTION.

Rationale: Late inputs will be worked through the Engineering Change Request (ECR) system for consideration in a subsequent cycle. POIC planners will establish the timing template in the Joint Operations Interface Procedures (JOIP), Multilateral Payload Operations, Vol. 2.

FLIGHT/INCREMENT APPLICABILITY: Generic

M13.1-2 PAYLOAD RELOCATION WITHIN THE USOS

ON-ORBIT RELOCATION OF PAYLOADS SHOULD BE MINIMIZED.

Rationale: Relocation of payloads to different racks may impact command-related Application Process Identifiers (APID) resulting in impacts to databases in the POIC, the MCC-H, and the on-board PCS. Other impacts include updates to Rack Interface Controller (RIC) software (re: U11.1-8), microgravity disturbances, and flight procedures.

FLIGHT/INCREMENT APPLICABILITY: Applies only to the USOS.

M13.1-3 PAYLOAD SAFING WITHIN THE USOS

ALL POWERED PAYLOADS IN THE USOS SHALL PROVIDE THE POIC WITH PAYLOAD SAFING PROCEDURES.

Rationale: Safing procedures are required in the event of a malfunction or other anomaly which would result in failures to payload hardware, impacts to other payloads, impacts to ISS systems, impacts to on-board resources, or impacts to the crew. Safing procedures will be executed by the POIC in accordance with the Ground Command Procedures documentation.

FLIGHT/INCREMENT APPLICABILITY: Applies only to the USOS.

MULTILATERAL PAYLOAD REGULATIONS

SECTION M14 - POST-OPERATIONS

TBD

MULTILATERAL PAYLOAD REGULATIONS

SECTION M15 - RUSSIAN SEGMENT PARTNER-SPECIFIC PAYLOAD REGULATIONS

M15.1-1 KHT-1 GLOBAL TIMING SYSTEM TRANSMITTER LIMITATIONS

THE TOTAL AMOUNT OF TIME THE GLOBAL TIMING SYSTEM (GTS) TRANSMITTERS ARE SWITCHED OFF SHOULD BE MINIMIZED.

Rationale: Loss of science occurs.

FLIGHT/INCREMENT APPLICABILITY: 4P

M15.1-2 BTX-1 GLICOPROTEIDE TRANSFER AND INSTALLATION LIMITATIONS

BTX-1 GLICOPROTEIDE MUST BE INSTALLED AND ACTIVATED IN THE SERVICE MODULE WITHIN 24 HOURS AFTER PROGRESS DOCKING.

Rationale: Samples must be installed and the crew must add nutrients to the proteins to preserve sample viability.

FLIGHT/INCREMENT APPLICABILITY: 3P

M15.1-3 BTX-1 GLICOPROTEIDE TEMPERATURE LIMITATIONS

IF THE TEMPERATURE AT THE LOCATION OF BTX-1 RISES AT A RATE GREATER THAN 3 DEGREES PER 24 HOURS BASED ON TELEMETRY, BTX-1 MUST BE MOVED TO A DIFFERENT LOCATION WITH MORE STABLE TEMPERATURE.

Rationale: Pronounced temperature changes may cause the experiment samples to degrade.

FLIGHT/INCREMENT APPLICABILITY: 3P – 5A

M15.1-4 BTX-2 MIMETIK-K TRANSFER AND INSTALLATION LIMITATIONS

BTX-2 MIMETIK-K MUST BE INSTALLED AND ACTIVATED IN THE SERVICE MODULE WITHIN 24 HOURS AFTER PROGRESS DOCKING.

Rationale: Experiment must be installed and the crew must add nutrients to the proteins to preserve sample viability.

FLIGHT/INCREMENT APPLICABILITY: 3P

M15.1-5 BTX-2 MIMETIK-K TEMPERATURE LIMITATIONS

IF THE TEMPERATURE AT THE LOCATION OF BTX-2 RISES AT A RATE GREATER THAN 3 DEGREES PER 24 HOURS BASED ON TELEMETRY, BTX-2 MUST BE MOVED TO A DIFFERENT LOCATION WITH MORE STABLE TEMPERATURE.

Rationale: Pronounced temperature changes may cause the experiment samples to degrade.

MULTILATERAL PAYLOAD REGULATIONS

FLIGHT/INCREMENT APPLICABILITY: 3P – 5A

M15.1-6 BTX-12 BIOECOLOGY TRANSFER AND INSTALLATION LIMITATIONS

BTX-12 BIOECOLOGY MUST BE INSTALLED AND ACTIVATED IN THE SERVICE MODULE WITHIN 24 HOURS AFTER PROGRESS DOCKING.

Rationale: Experiment must be installed, and the crew must add nutrients to the proteins to preserve sample viability.

FLIGHT/INCREMENT APPLICABILITY: 3P

M15.1-7 BTX-12 BIOECOLOGY TEMPERATURE LIMITATIONS

IF THE TEMPERATURE AT THE LOCATION OF BTX-12 RISES AT A RATE GREATER THAN 3 DEGREES PER 24 HOURS BASED ON TELEMETRY, BTX-12 MUST BE MOVED TO A DIFFERENT LOCATION WITH MORE STABLE TEMPERATURE.

Rationale: Pronounced temperature changes may cause the experiment samples to degrade.

FLIGHT/INCREMENT APPLICABILITY: 3A – 5A.1

M15.1-8 BTX-12 BIOECOLOGY STOWAGE FOR RETURN LIMITATIONS

BTX-12 BIOECOLOGY MUST BE STOWED FOR RETURN TO EARTH WITHIN THE FINAL 24 HOURS PRIOR TO SPACECRAFT UNDOCKING.

Rationale: The samples must be stowed as late as possible to minimize the amount of time outside of the known exposure environment.

FLIGHT/INCREMENT APPLICABILITY: 5A and 5A.1

M15.1-9 BTX-14 BIOEMULSION TRANSFER AND ACTIVATION CONSTRAINTS

BTX-14 BIOEMULSION MUST BE TRANSFERRED AND ACTIVATED NO LATER THAN 3 DAYS AFTER ARRIVAL.

Rationale: Experiment must be installed, and the crew must add nutrients to the proteins to preserve sample viability.

FLIGHT/INCREMENT APPLICABILITY: 4P

M15.1-10 BTX-14 BIOEMULSION TEMPERATURE CONSTRAINTS

BTX-14 BIOEMULSION EQUIPMENT MUST BE STORED AT A TEMPERATURE OF 18-20 DEGREES CENTIGRADE. TEMPERATURES ABOVE 20 DEGREES CENTIGRADE REQUIRE THE CREW TO MOVE BTX-14 TO A DIFFERENT LOCATION.

Rationale: Experiment samples are sensitive to high temperatures.

MULTILATERAL PAYLOAD REGULATIONS

FLIGHT/INCREMENT APPLICABILITY: 4P – 5A.1

M15.1-11 GFE-1 RELAXATION OPERATIONS CONSTRAINTS

GFE-1 RELAXATION OBSERVATIONS MUST BE TAKEN IN THE SHADE OF THE TERMINATOR ZONE.

Rationale: A lighted Earth reflects ultraviolet radiation that adversely affects the experiment results.

FLIGHT/INCREMENT APPLICABILITY: 4P

M15.1-12 MBE-5 CARDIO SCHEDULING AFTER CREW MEALS

MBE-5 CARDIO MUST BE CONDUCTED NO SOONER THAN 1.5 HOURS AFTER A MEAL.

Rationale: This is a medical constraint related to physical activity limitations after eating.

FLIGHT/INCREMENT APPLICABILITY: 3P and subs

M15.1-13 MBE-5 CARDIO SCHEDULING CONSTRAINTS

A CREWMEMBER MAY NOT PARTICIPATE IN EXERCISE ON THE SAME HALF-DAY THE CREWMEMBER IS A SUBJECT OF THE MBE-5 CARDIO EXPERIMENT.

Rationale: This experiment is performed in place of regular exercise.

FLIGHT/INCREMENT APPLICABILITY: 3P and subs

M15.1-14 MBE-5 CARDIO CLOTHING REQUIREMENTS

A CREWMEMBER MAY NOT WEAR THE BRASLET DEVICE ON THE SAME DAY THE CREWMEMBER IS THE SUBJECT OF THE MBE-5 CARDIO EXPERIMENT.

Rationale: This is a medical constraint; the Braslet device may affect the results of this experiment

(Editor's note: We may need to add the definition of "the Braslet device" to clarify the intent of this regulation.)

FLIGHT/INCREMENT APPLICABILITY: 3P and subs

M15.1-15 MBE-1 SPRUT-K OPERATIONS CONSTRAINTS

MBE-1 SPRUT-K OPERATIONS MUST TAKE PLACE DURING THE CREW MORNING BEFORE BREAKFAST, WHILE THE PARTICIPATING CREWMEMBER HAS AN EMPTY STOMACH.

Rationale: This is a medical requirement; food or drink may affect the validity of the results.

MULTILATERAL PAYLOAD REGULATIONS

FLIGHT/INCREMENT APPLICABILITY: 3P and subs

M15.1-16 MBE-3 PARADONT SCHEDULING REQUIREMENTS

MBE-3 PARADONT EXPERIMENT SAMPLES MUST BE TAKEN ONE TIME PER INCREMENT, NO EARLIER THAN 3 DAYS PRIOR TO RETURNING THE SAMPLE TO EARTH.

Rationale: Experiment samples are perishable.

FLIGHT/INCREMENT APPLICABILITY: 3P and subs

M15.1-17 MBE-3 PARADONT SAMPLE TEMPERATURE CONSTRAINTS

AFTER EXPERIMENT OPERATIONS AND PRIOR TO TRANSFER TO ETOV, MBE-3 PARADONT SALIVA SAMPLES MUST BE KEPT AT 4 DEGREES CENTIGRADE.

Rationale: Sample viability

FLIGHT/INCREMENT APPLICABILITY: 3P and subs

M15.1-18 RBO-2 BRADOZ TRANSFER CONSTRAINTS

RBO-2 BRADOZ MUST BE TRANSFERRED AND ACTIVATED NO LATER THAN 3 DAYS AFTER ARRIVAL.

Rationale: Experiment must be installed, and the crew must add nutrients to the protein to preserve sample viability.

FLIGHT/INCREMENT APPLICABILITY: 3P

M15.1-19 TEX-20 PLASMA CRYSTAL 3 OPERATIONS CONSTRAINTS

TEX-20 PLASMA CRYSTAL 3 EXPERIMENT MAY NOT OPERATE DURING AN ISS DYNAMIC MODE (ATTITUDE HOLD MODE) NOR DURING CREW EXERCISE.

Rationale: Effects of microgravity levels on experiment results.

FLIGHT/INCREMENT APPLICABILITY: 3P and subs

MULTILATERAL PAYLOAD REGULATIONS

SECTION M16 - EUROPEAN (ESA) SEGMENT PARTNER-SPECIFIC PAYLOAD REGULATIONS

TBD

MULTILATERAL PAYLOAD REGULATIONS

SECTION 17 - JAPANESE (NASDA) SEGMENT PARTNER-SPECIFIC PAYLOAD REGULATIONS

TBD

MULTILATERAL PAYLOAD REGULATIONS

SECTION 18 - CANADIAN (CSA) SEGMENT PARTNER-SPECIFIC PAYLOAD REGULATIONS

TBD

MULTILATERAL PAYLOAD REGULATIONS

SECTION 19 - UNITED STATES (NASA) SEGMENT PARTNER-SPECIFIC PAYLOAD REGULATIONS

M19.1-1 DOCUMENTATION OF UNITED STATES SEGMENT PARTNER-SPECIFIC REGULATIONS

THE NASA SEGMENT PARTNER-SPECIFIC PAYLOAD REGULATIONS ARE CONTAINED IN A SEPARATE DOCUMENT, SSP 58313, NASA PAYLOAD REGULATIONS.

Rationale: The number and scope of U.S. Segment payload regulations warrants its own document.

FLIGHT/INCREMENT APPLICABILITY: Generic

MULTILATERAL PAYLOAD REGULATIONS

APPENDIX A - ACRONYMS AND ABBREVIATIONS

A/G	AIR-TO-GROUND (SHUTTLE COMMUNICATIONS)
AOS	ACQUISITION OF SIGNAL
APID	APPLICATION PROCESS IDENTIFIER
APS	AUTOMATED PAYLOAD SWITCH
BIST	BUILT-IN SELF-TEST
C&C	COMMAND AND CONTROL
CHeCS	CREW HEALTH CARE SYSTEM
CR	CHANGE REQUEST
CSA	CANADIAN SPACE AGENCY
DAR	DAILY ACTIVITY REPORT
DPC	DAILY PLANNING CONFERENCE
ECR	ENGINEERING CHANGE REQUEST
ESA	EUROPEAN SPACE AGENCY
EVA	EXTRAVEHICULAR ACTIVITY
EXPRESS	EXPEDITE THE PROCESSING OF EXPERIMENTS TO SPACE STATION
FD	FLIGHT DIRECTOR
GTS	GLOBAL TIMING SYSTEM
IDRD	INCREMENT DEFINITION REQUIREMENTS DOCUMENT
IP	INTERNATIONAL PARTNER
ISPR	INTERNATIONAL STANDARD PAYLOAD RACK
ISS	INTERNATIONAL SPACE STATION
JOIP	JOINT OPERATIONS INTERFACE PROCEDURES
LIS	LEAD INCREMENT SCIENTIST
LOS	LOSS OF SIGNAL
LRT	LOW RATE TELEMETRY
MCC-H	MISSION CONTROL CENTER - HOUSTON
MCC-M	MISSION CONTROL CENTER - MOSCOW
MDM	MULTIPLEXER/DEMULTIPLEXER
MO&UCB	MULTILATERAL OPERATIONS AND UTILIZATION CONTROL BOARD
MSD	MASS STORAGE DEVICE
NASA	NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
NASDA	NATIONAL SPACE DEVELOPMENT AGENCY OF JAPAN
OCA	ORBITAL COMMUNICATIONS ADAPTER
OCR	OPERATIONS CHANGE REQUEST
ODF	OPERATIONS DATA FILE
OOS	ON-ORBIT OPERATIONS SUMMARY
OSTP	ON-BOARD SHORT-TERM PLAN

MULTILATERAL PAYLOAD REGULATIONS

PCC	PARTNER CONTROL CENTER
PD	PAYLOAD DEVELOPER
PI	PRINCIPAL INVESTIGATOR
PIMS	PAYLOAD INFORMATION MANAGEMENT SYSTEM
PL MDM	PAYLOAD MULTIPLEXER/DEMULTIPLEXER
PLSS	PAYLOAD SUPPORT SYSTEMS
POCB	PAYLOAD OPERATIONS CONTROL BOARD
POD	PAYLOAD OPERATIONS DIRECTOR
POI	PAYLOAD OPERATIONS INTEGRATION
POIC	PAYLOAD OPERATIONS INTEGRATION CENTER
PSRP	PAYLOAD SAFETY REVIEW PANEL
RIC	RACK INTERFACE CONTROLLER
RSA	RUSSIAN SPACE AGENCY
S/G	SPACE-TO-GROUND(STATION COMMUNICATIONS)
SPIP	STATION PROGRAM IMPLEMENTATION PLAN
SSCC	SPACE STATION CONTROL CENTER
STP	SHORT-TERM PLAN
TBD	TO BE DETERMINED
TBR	TO BE RESOLVED
TBS	TO BE SCHEDULED, TO BE SUPPLIED
TDRSS	TRACKING AND DATA RELAY SATELLITE SYSTEM
USOS	UNITED STATES ON-ORBIT SEGMENT
VSU	VIDEO SWITCHING UNIT

MULTILATERAL PAYLOAD REGULATIONS

APPENDIX B - CHANGE CONTROL

PRE-INCREMENT

This document is subject to the POCB change control process as identified in the Charter and Operations Policy which are located on the Web. The ECR form (MSFC Form 2327) can be found on the POIF Configuration Management Web site. CR submitters shall send a copy of the ECR to the Multilateral Payload Regulations book manager prior to submitting to their respective Control Board Representative.

INCREMENT OPERATIONS

Changes requested during increment operations shall be submitted by an Operational Change Request (OCR) in accordance with the JOIPs.

MULTILATERAL PAYLOAD REGULATIONS

APPENDIX C - REFERENCE DOCUMENTS

MSFC-DOC-2581, Team Definition Document

NSTS 12820, ISS Generic Operational Flight Rules, Vol. B

NSTS/ISS 18798B, Interpretations of NSTS/ISS Payload Safety Requirements

POIF-OC-0004, End-to-End Commanding Operations Manual

POIF-OC-0006, On-board Short Term Plan Operations Manual

POIF-OC-0009, Payload File Transfer Operations Manual

POIF-OC-0010, Payload MDM Timeliner Operations Manual

POIF-OC-0013, Crew Interface Operations Manual

SSP # TBD, Increment # Execute Planning Groundrules and Constraints

SSP # TBD, Joint Operations Interface Procedure (POIC/PCC), Vol. II

SSP # TBD, Joint Operations Interface Procedures (POIC/PCC)

SSP 50200, Station Program Implementation Plan, Vol. 8, Increment Preparation Execution

SSP 50200, Station Program Implementation Plan, Vol. 9, Realtime Operations

SSP 50261-02, ISS Generic Execute Planning Groundrules and Constraints

SSP 52000-PDS, Payload Data Blank Book Set

SSP 52000-PIA-PRP, Payload Integration Agreement for Pressurized Payloads

SSP 54103, Increment Definition and Requirements Document for Planning Period 3

MULTILATERAL PAYLOAD REGULATIONS

APPENDIX D - DEFINITIONS AND GLOSSARY

ANOMALY - A DEVIATION FROM THE COMMON RULE, TYPE, OR FORM. AN ODD, PECULIAR, OR STRANGE CONDITION, SITUATION, QUALITY, OR THE LIKE.

MAFUNCTIONS

SYSTEM OR EQUIPMENT FAILURE THAT REQUIRES A DIAGNOSTIC PROCESS THAT WILL DETERMINE THE NATURE OF THE FAILURE AND POSSIBLE CORRECTIVE ACTION.

MONITORING

MONITORING IS THE PROCESS OF OVERSEEING, SUPPORTING, OR OBSERVING THROUGH TELEMETRY, VOICE OR VIDEO, AN OPERATION THAT IS BEING PERFORMED BY OTHERS AND REQUIRES NO CONTROL OPERATIONS TO BE PERFORMED BY THE MONITORING PARTICIPANT. CREW CAN ALSO MONITOR BY SIGHT, SMELL, ON-BOARD DISPLAYS, ETC.

NEGATIVE REPORTING

THIS TERM REFERS TO A COMMUNICATIONS PHILOSOPHY BETWEEN THE ISS CREW AND THE PAYLOAD CONTROL CENTERS. THIS PHILOSOPHY IS THAT THE CREW WILL NOT CALL A CONTROL CENTER TO REPORT THAT EVERYTHING IS NORMAL. IF THE CREW DOES NOT INFORM THE GROUND OF A PROBLEM THE GROUND SHOULD ASSUME THAT OPERATIONS ARE PROCEEDING NOMINALLY AND ON SCHEDULE.

NOMINAL OPERATIONS

OPERATIONS USED TO CARRY OUT DAY-TO-DAY, NORMAL OPERATIONS OF THE SYSTEMS OR INDIVIDUAL SUBSYSTEM COMPONENTS.

NOMINAL PLSS OPERATIONS

ALL NOMINAL OPERATIONS ARE INCLUDED IN THE APPROVED PAYLOAD PROCEDURE SET FOR THE INCREMENT. THESE PROCEDURES WILL BE USED TO CHANGE THE CONFIGURATION OF THE PLSS IN SUPPORT OF PERFORMING ALL ASPECTS OF PAYLOAD OPERATIONS, INCLUDING NOMINAL OPERATIONS, MAFUNCTIONS, AND CORRECTIVE ACTIONS.

OFF-NOMINAL OPERATIONS

OPERATIONS PERFORMED WHEN SOMETHING HAPPENS AT A PARTICULAR POINT TO PREVENT THE NORMAL FLOW OF OPERATIONS.

OFF-NOMINAL PLSS OPERATIONS

OFF-NOMINALS ARE PERFORMED WHEN A FAILURE HAS OCCURRED OR CIRCUMSTANCES REQUIRE A DEVIATION FROM THE PLANNED OPERATIONAL FLOW. SAFING ACTIONS USUALLY IN THE FORM OF QUICK RESPONSE PROCEDURES ARE OFF-NOMINAL OPERATIONS.

OPERATIONS CHANGE REQUEST

CHANGE REQUESTS TO FLIGHT PROCESSES AND ON-BOARD OPERATIONS THAT MUST BE MADE DURING SUPPORT OF THE CURRENTLY EXECUTING INCREMENT.

PAYLOAD PLANNING PRODUCTS

THE SET OF PRODUCTS CONSISTING SPECIFICALLY OF THE ON-ORBIT OPERATIONS SUMMARY (OOS), OOS UPDATES, THE SHORT TERM PLAN (STP), ON-BOARD SHORT TERM PLAN (OSTP), USOS COMMAND PLAN, AND THE USOS DATA FLOW PLAN.

USERS

PAYLOAD DEVELOPERS (PD), PRINCIPAL INVESTIGATORS (PI), AND CO-INVESTIGATORS WHICH ARE AUTHORIZED TO COMMAND PAYLOADS BUT ARE NOT MEMBERS OF THE PCC FLIGHT CONTROL TEAM.

MULTILATERAL PAYLOAD REGULATIONS

MULTILATERAL PAYLOAD REGULATIONS

APPENDIX E – OPEN TBRs/TBDs

RESOLUTION	BRIEF DESCRIPTION	RESPONSIBILITY	DUE DATE
M2.1-4	Lead Increment Scientist Role	MSFC/C. Olsen	12/31/00
M2.1-5	Increment Payload Manager Role	MSFC/C. Olsen	12/31/00
M3.1-4	Coordination – Unavailable Crewmember	RSA/RSC-E and MSFC/T. Melton	12/31/00
M3.1-5	Coordination – Priorities During Realtime (involves LIS Rep role)	RSA/RSC-E and MSFC/T. Melton	12/31/00
M3.1-6	Coordination – Priorities During Replanning (involves Russians prioritizing replanning within their segment)	RSA/RSC-E and MSFC/T. Melton	12/31/00
Section M14	No Post-Operations Regulations Defined	MSFC/C. Olsen	12/31/00
Section M16	European Segment Regs	MSFC/C. Olsen	When Applicable
Section M17	Japanese Segment Regs	MSFC/C. Olsen	When Applicable
Section M17	Canadian Segment Regs	MSFC/C. Olsen	When Applicable